AMENDMENTS TO THE CLAIMS

1. (presently amended) A system for calculating and reporting slump in a delivery vehicle having a mixing drum and hydraulic drive for rotating the mixing drum, comprising:

a rotational sensor mounted to the mixing drum and configured to sense drum activity in the form of a rotational ~~speed~~ movement of the mixing drum;

a hydraulic sensor coupled to the hydraulic drive and configured to sense drum activity in the form of a hydraulic pressure required to turn the mixing drum; and

a processor computing a ~~slump value~~ rheological value for a mixture within the mixing drum using the sensors, wherein the ~~sensing of the~~ rotational ~~speed~~ movement of or hydraulic pressure applied to the mixing drum, or both, over a period of time is used ~~to qualify~~ in calculating ~~a calculation of current slump based on the hydraulic pressure required to turn~~ the rheological parameter of the material within the mixing drum.

2. (currently amended) The system of claim 1, wherein the material within the mixing drum is concrete and the history of the rotational speed of the mixing drum is used to qualify a calculation of current slump.

3. (currently amended) The system of claim 2, wherein the material within the mixing drum is concrete and the stability of rotational speed of the mixing drum is used to qualify a calculation of current slump.

4. (cancelled) A system for calculating and reporting slump in a delivery vehicle having a mixing drum, comprising:

a liquid component source;

a flow valve coupled to the liquid component source and configured to control the amount of a liquid component added to the mixing drum; and

a flow meter coupled to the flow valve and configured to sense the amount of liquid component added to the mixing drum;

a processor electrically coupled to the flow valve and the flow meter, wherein the processor controls the amount of liquid component added to the mixing drum to reach a desired slump.

5. (cancelled) The system of claim 4, wherein the liquid component is at least one of water and a superplasticizer (SP).

6. (cancelled) The system of claim 4, wherein the flow valve and the flow meter are mounted in a manifold, the rotational sensor and the hydraulic pressure sensor are provided with mountings, and varying lengths of interconnects are used between the manifold, the rotational sensor and the hydraulic pressure sensor to provide a modular system.

7. (cancelled) The system of claim 1 or 4, further comprising a display coupled to the processor and configured to display slump values.

8. (cancelled) A method of calculating and reporting slump in a delivery vehicle having a mixing drum and a hydraulic drive for rotating the mixing drum, comprising:

a processor sensing activity of the mixing drum including one or more of a rotational speed of the drum and a hydraulic pressure applied to turn the drum;

using the sensed activity rotational speed of the mixing drum to evaluate delivery vehicle activity; and

communicating vehicle activity information to a status system commonly used in the concrete industry.

9. (cancelled) The method of claim 8, further comprising determining from the sensed activity the appropriateness of vehicle activity.

10. (cancelled) The method of claim 9 comprising determining from the sensed activity one or more of:

adequacy of mixing of concrete,

details of concrete pour actions,

appropriateness of a concrete discharge,

concrete slump values,

appropriateness of fluid discharge,

weather information,

water supply conditions.

11. (cancelled) A system for managing a concrete delivery vehicle having a mixing drum and sensors for detecting vehicle activity, comprising:

a processor sensing signals from said sensors and using the sensed signals to evaluate and track vehicle activity; and

a communication system for communicating with a remote location to receive software therefrom to modify operation of said processorwhile said vehicle is in concrete delivery service.

12. (cancelled) The system of claim 11 wherein said communication system is a status system commonly used in the concrete industry.

13. (cancelled) The system of claim 11 wherein said communication system operates wirelessly.

14. (cancelled) A wireless rotational sensor for detecting the rotation of a mixing drum on a concrete delivery vehicle, comprising:

an accelerometer mounted to said mixing drum,

a wireless transmitter coupled to said accelerometer and transmitting a signal reflective of rotation of the mixing drum, and

a wireless receiver for receiving said signal reflective of drum rotation.

15. (new) The system of claim 1 wherein the material within the mixing drum is concrete and said processor further determines from the sensed rotational speed of or hydraulic pressure applied to the drum, or both, one or more of:

adequacy of mixing of concrete,

the occurrence of a concrete pour action from the mixing drum,

appropriateness of a concrete discharge from the mixing drum,

concrete slump values,

the occurrence of a fluid discharge into the mixing drum,

appropriateness of a fluid discharge into the mixing drum,

effect of a fluid discharge into the mixing drum,

water supply conditions.

16. (new) The system of claim 1 wherein said processor determines whether to discharge fluid into said drum based upon rheological properties determined by said processor.

17. (new) The system of claim 16 wherein said fluid discharged into said drum comprises a chemical additive.

18. (new) The system of claim 17 wherein said chemical additive is a superplasticizer.

19. (new) The system of claim 16 wherein said fluid discharged into said drum comprises water.

20. (new) A method for calculating and reporting slump in a delivery vehicle having a mixing drum and hydraulic drive for rotating the mixing drum, comprising:

sensing drum activity in the form of a rotational movement of the mixing drum;

sensing drum activity in the form of a hydraulic pressure required to turn the mixing drum; and

computing a rheological value for a mixture within the mixing drum using the sensed drum activity, wherein the rotational movement of or hydraulic pressure applied to the mixing drum, or both, over a period of time is used in calculating the rheological parameter of the material within the mixing drum.

21. (new) The method of claim 20, wherein the material within the mixing drum is concrete and the history of the rotational speed of the mixing drum is used to qualify a calculation of current slump.

22. (new) The method of claim 20, wherein the material within the mixing drum is concrete and the stability of rotational speed of the mixing drum is used to qualify a calculation of current slump.

23. (new) The method of claim 20 wherein the material within the mixing drum is concrete, and further comprising determining from the sensed rotational speed of or hydraulic pressure applied to the drum, or both, one or more of:

adequacy of mixing of concrete,

the occurrence of a concrete pour action from the mixing drum,

appropriateness of a concrete discharge from the mixing drum,

concrete slump values,

the occurrence of a fluid discharge into the mixing drum,

appropriateness of a fluid discharge into the mixing drum,

effect of a fluid discharge into the mixing drum,

water supply conditions.

24. (new) The method of claim 20 further comprising determining whether to discharge fluid into said drum based upon rheological properties determined by the method of claim 20.

25. (new) The system of claim 16 wherein said fluid discharged into said drum comprises a chemical additive.

26. (new) The system of claim 17 wherein said chemical additive is a superplasticizer.

27. (new) The system of claim 16 wherein said fluid discharged into said drum comprises water.